



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/499,369	02/07/2000	Toshitsugu Wakabayashi	1190-0437P	1167

7590 03/23/2006

Birch Stewart Kolasch & Birch LLP
P O Box 747
Falls Church, VA 22040-0747

EXAMINER

TRAN, TRANG U

ART UNIT	PAPER NUMBER
----------	--------------

2622

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/499,369	Applicant(s) WAKABAYASHI, TOSHITSUGU	
	Examiner Trang U. Tran	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-10, 16 and 18 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed Dec. 08, 2005 have been fully considered but they are not persuasive.

In re pages 9-10, applicant argues that Nishino does not teach or suggest the claimed varying the frequency characteristic of the image in a periodic manner as recited in independent claims 1 and 12 because the shifting of the electric beam has no connection with the frequency characteristics of the image signal in Nishino.

In response, the examiner respectfully disagrees. Nishino Kanji discloses, in the abstract, the L1 and L2 shift three primary colors (red, green, and blue) electronic beams slightly leftward and rightward and in page 3, paragraph #0033 that "Three primary color (red, green, blue) electron beams of level in-line arrangement. It is slightly shaken at a longitudinal direction and the moiré by the level spatial-frequency component is reduced by what the display position of the **color video signal supplied to a color cathode-ray tube is slightly shifted by right and left for every line (the amount can carry out adjustable by adjustment of a potentiometer 19)**". The shifting of the color video signal of Nishino Kanji does vary the frequency characteristic of the image signal in a periodic manner because the frequency of the image signal of the color image signal (the color video signal supplied to a color cathode-ray tube is slightly shifted by right and left for every line) is shifted with respect to time in a periodic manner (for every line).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 12-15 are rejected under 35 U.S.C. 102(b) as being anticipate by Nishino Kenji (JP Patent No. 06-12195).

In considering claim 12, Nishino Kenji discloses all the claimed subject matter, note 1) the claimed periodically varying a frequency characteristic of the image signal by acting directly on said image signal is met by the alternating voltage generating circuit 10 which generates an alternating voltage, and a horizontal and vertical alternating magnetic field is generated at coils L1 and L2, and then, three horizontal in-line arranged original color electronic beams are horizontal vibrated a little, and the display position of a color video signal supplied to a color cathode ray tube is horizontal shifted a little by each line (see the abstract and page 2, [0020]-[0023]).

In considering claim 13, the claimed wherein the image is divided into spatial lines and temporal frames, and said step of periodically varying alter said frequency characteristic once per spatial line in each temporal frame is met by the alternating voltage generating circuit 10, then, the circuit 10 generates an alternating voltage, and a horizontal and vertical alternating magnetic field is generated at coils L1 and L2 (see the abstract and page 2, [0020]-[0023]).

In considering claim 14, the claimed wherein said step of periodically varying also alters said frequency characteristic once per said temporal frame in each said spatial line is met by the alternating voltage generating circuit 10, then, the circuit 10 generates an alternating voltage, and a horizontal and vertical alternating magnetic field is generated at coils L1 and L2 (see the abstract and page 2, [0020]-[0023]).

In considering claim 15, the claimed wherein said step of periodically varying further comprises the step of passing the image signal through a variable inductance element, and then varying the inductance value of said variable inductance element in a periodic manner, to vary said frequency characteristic of said image signal in a periodic manner is met by the alternating voltage generating circuit 10, then, the circuit 10 generates an alternating voltage, and a horizontal and vertical alternating magnetic field is generated at coils L1 and L2 (see the abstract and page 2, [0020]-[0023]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al. (US Patent No. 6,346,936) in view of Nishino Kenji (JP Patent No. 06-12195).

In considering claim 1, Murayama et al. discloses all the claimed subject matter, note 1) the claimed an image signal processing circuit receiving an image signal and

Art Unit: 2614

processing the image signal for display as an image is met by the RGB signal processing circuit (Fig. 1, col. 1, lines 20-26), 2) the claimed an image display unit receiving the image signal processed by the image signal processing circuit, and displaying the processed image signal as an image on a screen is met by the LCD panel 30 of the LCD display (Fig. 1, col. 1, lines 31-37), and 3) the claimed a control circuit receiving said image signal from said image signal processing circuit and varying a characteristic of the image signal in a periodic manner is met by the RGB drivers 20R, 20G, 20B which represents a signal processing circuit having a function of perform processing such as clamp, gamma, amplitude, bias adjustment, etc. on the R, G, B signals respectively and periodic vary the phase of picture to the pixel according to the timing signal from the timing generator 4 and the timing generator 4 which generates the timing signal for the RGB drivers (Figs. 2 and 5, col. 1, lines 27-59, col. 5, line 36 to col. 6, line 12).

However, Murayama et al explicitly do not disclose the claimed varying a frequency characteristic of the image signal in a periodic manner.

Nishino Kenji teaches that the vertical synchronizing signal VS from an outside or a synchronizing separator circuit 1 is supplied to a set/reset circuit 9 constituting a moiré cancel circuit 8, the output of the circuit 9 and a horizontal synchronizing signal HS from the outside or the circuit 1 are supplied to an alternating voltage generating circuit 10, then, the circuit 10 generates an alternating voltage, and a horizontal and vertical alternating magnetic field is generated at coils L1 and L2, then, three horizontal in-line arranged original color electronic beams are horizontal vibrated a little, and the display

position of a color video signal supplied to a color cathode ray tube is horizontal shifted a little by each line (see the abstract and page 2, [0020]-[0023]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the alternating voltage generating circuit as taught by Nishino Kenji into Murayama et al's system in order to reduce the moiré generated with the color cathode-ray tube which used the shadow mask and the aperture grille.

In considering claim 2, the claimed wherein the image is divided into spatial lines and temporal frames, and the control circuit alter said frequency characteristic once per spatial line in each temporal frame is met by the alternating voltage generating circuit 10, then, the circuit 10 generates an alternating voltage, and a horizontal and vertical alternating magnetic field is generated at coils L1 and L2 (see the abstract and page 2, [0020]-[0023] of Nishino Kenji).

In considering claim 3, the claimed wherein the control circuit also alters said frequency characteristic once per said temporal frame in each said spatial line is met by the alternating voltage generating circuit 10, then, the circuit 10 generates an alternating voltage, and a horizontal and vertical alternating magnetic field is generated at coils L1 and L2 (see the abstract and page 2, [0020]-[0023] of Nishino Kenji).

In considering claim 4, the claimed wherein the control circuit comprises a timing circuit receiving a first synchronizing signal indicating said spatial lines and a second synchronizing indicating said temporal frames, and generating a timing signal by dividing a frequency of the first synchronizing signal, toggling the timing signal once per said spatial line and reversing a phase of the timing signal once per said temporal

Art Unit: 2614

frame, said frequency characteristic being controlled according to the timing signal is met by the set/reset signal generating circuit which generates a set signal and a reset signal by turns for every perpendicular period synchronization with a vertical synchronizing signal, and making it reverse the phase of the police box signal generating circuit for every arrival of a vertical synchronizing signal (see the abstract and page 2, [0014] and [0020]-[0023] of Nishino Kenji).

In considering claim 5, the claimed wherein the control circuit has a variable inductance element, the image signal passes through said variable inductance element, and the control circuit varies the inductance value of said variable inductance element in a periodic manner, thereby varying said frequency characteristic of said image signal in a periodic manner is met by the alternating voltage generating circuit 10, then, the circuit 10 generates an alternating voltage, and a horizontal and vertical alternating magnetic field is generated at coils L1 and L2 (see the abstract and page 2, [0020]-[0023] of Nishino Kenji).

In considering claim 6, the claimed wherein the variable inductance element comprises a coil having a primary winding and a secondary winding, the image signal passing through the primary winding, the control circuit alternately opening and closing the secondary winding is met by A coil L1 and L2 (Fig. 5, page 2, [0020]-[0023] of Nishino Kenji).

Allowable Subject Matter

6. Claims 7-10, 16 and 18 are allowable.

Art Unit: 2614

Claims 7-9 and 16 identify the uniquely distinct features "wherein said waveform characteristic is an amplitude characteristic, and the control circuit comprises: a first amplifier circuit amplifying the image signal with a first gain characteristic; a second amplifier circuit amplifying the image signal with a second gain characteristic differing from the first gain characteristic; and a timing circuit selecting the first amplifier circuit and the second amplifier circuit alternately". The closest prior arts, Murayama et al. (US Patent No. 6,346,936) and Nishino Kenji (JP Patent No. 06-12195), either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

Claims 10 and 18 identify the uniquely distinct features "further comprising a control unit that determines a resolution of the image signal and activates the control circuit, when said resolution is higher than a predetermined value and does not activate the control circuit when said resolution is lower than the predetermined value". The closest prior arts, Murayama et al. (US Patent No. 6,346,936) and Nishino Kenji (JP Patent No. 06-12195), either singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

Art Unit: 2614

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trang U. Tran whose telephone number is (571) 272-7358. The examiner can normally be reached on 8:00 AM - 5:30 PM, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TT
March 16, 2006



Trang U. Tran
Examiner
Art Unit 2614